

Available online at [www.sciencedirect.com](http://www.sciencedirect.com) ScienceDirect

Energy Procedia 5 (2011) 250–254

---

---

Energy  
**Procedia**

---

---

IACEED2010

## Discussion on the Role of Chinese Government in Strengthening Environmental Protection Investment

Zhang Wei<sup>a\*</sup>, Wen Hongyu<sup>b</sup>, Zhang Dandan<sup>a</sup><sup>a</sup>*School of Economics, University of Jinan, Jinan, China 250022*<sup>b</sup>*School of Management, University of Jinan, Jinan, China 250022*

---

### Abstract

Chinese government can play lots of roles in strengthening environmental protection investment, for example, making system innovation on environmental investment and financing which include unifying authority over administrative and financial environmental affairs, giving fair treatment of investors, implementing mortgage financing of emissions, collection right and franchises; establishing financial funds sources which include growth mechanism of long-term stable fund, environmental fund for special purposes and environmental taxes; achieving equalized environmental investment and financing through policies and regulations on fiscal tax and financing.

© 2011 Published by Elsevier Ltd. Open access under [CC BY-NC-ND license](http://creativecommons.org/licenses/by-nc-nd/3.0/).

Selection and peer-review under responsibility of RIUDS

*Keywords:* System innovation; Environmental tax; Policies and regulations

---

### 1. Introduction

Chinese government can play certain roles in strengthening environmental investment, for example, making system innovation, establishing financial funds sources, achieving equalized environmental protection investment and financing through introduction of policies and regulations and so on.

### 2. Make system innovation on environmental protection investment and financing in China

System innovation on environmental investment and financing of government include unifying

---

\* Corresponding author. Tel.: +13589093950;

E-mail address: [cfy0510@163.com](mailto:cfy0510@163.com)

authority over administrative and financial environmental affairs, giving fair treatment of investors, implementing mortgage financing of emissions, collection right and franchises.

Clear authority over administrative and financial affairs is the cornerstone of environmental investment and financing policy. The “revenue-sharing-scheme” reform didn’t regulate intergovernmental relations on administrative authority clearly leading to an unreasonable government administrative authority. An unclear division of powers over environment administrative affairs leads to lack of local authority over environment financial affairs. The “211 Environmental Protection Subject” is in a state of “drainage without water, budget without money” in a considerably amount of areas so environmental responsibility and fiscal support are not reciprocal<sup>[1]</sup>. Environmental protection authorities should divide reasonable environment administrative affairs authority between central government and local government, establish matching mechanisms for environment administrative and financial affairs authorities based on principles and requirements of public finance. While continuing to strengthen environmental investment of central government, emphasize on enhancing capacity of local government investment in environmental protection in future work.

Environmental protection authorities should put forward some policies and regulations to give same treatment for state-owned, private and foreign capital systematically, break the monopoly of state-owned capital and eliminate “superstition” of foreign capital to create opportunities for private capital to develop and expand. Some local government does not consider actual demand while making use PPP method in environmental projects, blindly seeks to “public” and “foreign” which are not conducive to private capital development, investment cost control and competition in wastewater treatment market.

The so-called mortgage loan of emissions is a financing method in which the enterprise use emissions as collateral to take loans from bank, if the enterprise can not repay loans in time, banks have right to dispose the emissions fulfilling priority claim right. In September 2008, Jiaying Bank pioneered financial products of “mortgage loan of emissions” making a preliminary exploration. The advantages of such financing method lie in: enterprise can make full use of existing emissions solving insufficient capital problems, especially in technique transformation of energy saving; banks can open up new business, especially when the loans are at risk, banks can transfer the collateral reducing the risk; for government, the implementation of this method is conducive to environmental protection and resource conservation. Therefore, mortgage loan of emissions is a system realizing multilateral wins of all parties involved. We proposed environmental protection authorities gradually popularize the practice based on investigation. However, clear laws and regulations about whether emission right can be used as collateral, applicable extent, ways of changing pollution emission right into money are in lack, so environmental protection authorities need to conduct special studies.

Mortgage loan of collection right is a financing method in which the enterprise use collection right as collateral to take loans from bank, if the enterprise can not repay loans in time, banks have right to dispose the collection right fulfilling priority claim right. Mortgage loan of franchise is a financing method in which the enterprise use franchise as collateral to take loans from bank, if the enterprise can not repay loans in time, banks have right to dispose the franchise fulfilling priority claim right. Currently there are different collaterals of charging right in banks’ credit practice such as electricity charges, rural power grid charges, land development benefit rights, gas charges, heating charges, travel tickets charges and so on. In March 2008, People’s Bank of China and other three departments jointly issued “opinions on financial support for accelerating development of services” which noted that “gradually explore loan business for water development projects and urban environmental protection projects with certain repayment capacity to promote public service development”. As early as September 2003, Fujian Province has introduced policy allowing investment companies to take loans from financial institutions using franchise, and the loans are used for construction and operation of wastewater and garbage treatment plant. We advise environmental authorities study these models and promote them in national

environment system. Similarly, these models are not coordinate with the existing laws and regulations in some points, so environmental authorities need to conduct particular studies.

### **3. Establish financial funds sources of environmental protection investment and financing in China**

In recent years, governments at all levels are increasingly aware of the importance of environmental protection and increase environmental input, but the lack of stable budget system resulted in arbitrary arrangements for environmental fund which maybe reduced because of preference of local administrative heads. In 2006 the treasury officially put environmental protection into the government budget expenditures which laid a solid foundation for the establishment of environmental finance systems. The formally implemented new functional classification of government spending added a subject of “211 Environmental Protection” including ten categories and fifty small items. The specific content of 10 categories are environmental management services, environmental monitoring and inspecting, pollution control, ecological protection, natural forests protection, returning farmland to forest, desert sand control, restoring grazing areas to grasslands, returning reclaimed grassland to grass and others. Although there are many subjects about ecological management and restoration, but environmental subject did have an account in the government budget expenditures which is an important ensure of increasing government investment in environmental protection.

According to statistics, environmental funds only accounted for 6.55% of total central budget allocation fund of Chinese scientific and technological support project in 2008, ranking eighth in all 11 categories; resources and environment funds accounted for 9.56% of total central budget allocation fund of Chinese National Key Basic Research Program in 2008 (973 plans) only ranking fifth in all 9 categories; environmental project fund is least in National Torch Plan of technology in 2008 and the implemented amount accounted only 2.60% of total fund, implemented government money accounted for 2.85%. Therefore, environmental technology investment is not coordinated with its important position making a sharp contrast to resource-saving and environment-friendly society construction; at least it has not been clearly reflected in central government allocation. We still have huge task to ensure environment investment growth. We recommended early introduction of “environment investment law”, building a double-linkage mechanism of environment investment, GDP and fiscal revenue growth to ensure that environmental investment growth is faster than GDP and fiscal revenue growth.

In addition to regular expenditure budget of environment, the environmental protection authorities should set up some special environment fund for special use. Based on pollution charging policy implemented in China in 2003, the use of pollution fee has changed from pollution source governance into centralized use and set up “particular environment fund” into state budget which has played a positive role in strengthening environmental protection. But the “particular environment fund” is general, we propose environmental protection department setting up specific environmental protection fund, such as special funds for treatment of wastewater, garbage disposal and air pollution.

Environmental tax is also necessary. China has lacked independent environmental taxes for a long time and the green extent of tax is not high. As ecological situation is becoming increasingly serious, China has entered a period of more pollution accidents and prominent conflicts so the introduction of environmental taxes plays an important role in environmental pollution control. More importantly, if environmental taxes are dedicated to environmental protection, it can form sustainable financial security for environmental control<sup>[2]</sup>. If the environmental tax can not be specially used, the consequences are very serious. Environmental taxes can only be a “legitimate” charge and can’t play a role in environmental management. While laying burden on enterprises, it will legalize environmental pollution aggravating environmental pollution ultimately.

#### **4. Achieve equalized environmental protection investment and financing through introduction of policies and regulations**

Currently policies and regulations about investment and financing in environmental field are few. The only example is “views on implementation of environmental policies and regulations preventing credit risk.” jointly issued by State Environmental Protection Administration etc. in July 2007. Therefore, the environmental protection departments should attach great importance to policies and regulations about investment and financing during the “12th five year” period. We must strive for financial funding, but also actively use market-oriented financing, equalizing environmental protection investment and financing.

First, introduce fiscal tax policies and regulations. The focuses are: (1) Establish reasonable growth mechanism of fiscal investment in environmental protection and corresponding monitoring system to check whether the investment is in place in time; establish input-output and cost accounting mechanism of fiscal investment and improve efficiency and effectiveness of fiscal investment. (2) Change the way using financial capital, subsidized and encouraging investment instead of direct investment in environmental protection of finance boosting external funding to invest in environmental protection. Make some of the projects operational through financial subsidies and cross subsidies etc. attracting foreign investment and improving the construction and operation efficiency. (3) Establish and perfect the vertical transfer payment system of environmental finance and explore horizontal fiscal transfer payments. According to principle “who develops who protects, who destroys who recovers, who benefits who compensates”, actively explore reasonable ecological compensation mechanism. (4) Improve tax policies and regulations of environmental investment and financing. Establish diversified environmental protection investment and financing system through changes in categories of taxes and tax rates. Reform resource tax, improve fuel tax and introduce environmental taxes timely. Meanwhile, increase tax rates for producing activities that are not conducive to environment and implement low tax rate or zero tax rate for enterprises engaged in environmental services among existing taxes.

Second, introduce financial policies and regulations. The focuses are: (1) Implement green credit policy, strict loan approval, disbursement and supervision. Financial institutions shall not grant new loans and get back the original loans timely for final accepted projects which did not pass EIA approval or green “three simultaneous”. Meanwhile, financial institutions should increase support for environmental protection industry, encourage mortgage financing using pollution emission rights, charging right, franchise and green knowledge property right. (2) Support development of diversified green financial system including green venture investment, green stock, green trust, asset securitization, financial leasing, eco-funds, environmental financial instruments, pollution emissions right trading and environmental insurance. Actively develop green venture capital markets and guide domestic and foreign capital to from green venture capital funds; encourage environmental protection enterprises to issue a variety of bonds and use medium-term notes to finance, encourage small and medium environmental protection enterprises to issue collection bonds and use equity investment fund to finance; improve pollution emission rights system and full implementation emissions trading of major pollutants; establish liability insurance system of environmental pollution and carry it out in high environment-risk industries such as petrochemical, hazardous waste disposal and others. (3) Encourage the development of financing green guarantee business. Environmental financing has certain public welfare as well as high risk because it is linked with the high-tech, so environmental financing needs protection of the security business. Environmental financing with strong public welfare needs policy security business and environmental financing with weak public welfare needs commercial guarantee business. Thus, the development of financing green guarantee business is imminent. Related authorities promulgated “interim measures for financing guarantee corporate” in March 2010 creating conditions for development of financing guarantee business. Environmental protection authorities and Banking Regulatory Commission need jointly

promulgate “security implementation advice on environmental corporate financing” to develop green guarantee business which meet the characteristics of environmental protection activities and industries, providing guidance for financing guarantee of environmental protection enterprises.

Third, introduce other policies and regulations of environmental protection investment and financing. The focuses are: (1) Introduce policies and regulations to guide local environmental investments. For local environmental investments, it is also necessary to make clear focus and highlight crucial link. For example, encourage local government to strengthen support for common environmental technique research, demonstrating projects of industrial environmental self-support technology; introduction and assimilation of the efficient clean technologies and foreign investment in recycle economy, and so on. (2) Carefully remove policies and regulations that are not conducive to environment, such as entry barriers of environmental industry. Introduce industrial policies and regulations that are conducive to environment to guide external funds to invest in environmental protection industry. (3) Improve policies and regulations of environment price, and gradually establish production factor price mechanism reflecting resource scarcities and environmental costs to promote the funds to flow into the environmental protection industry. Steadily implement PPP mode according to the needs of social development requirements of public on the environment of, adjust charging standard reasonably of polluted water, waste disposal and emission fees so that investors can reach normal level of profitability without exceeding the affordability of consumers.

### Acknowledgements

This study is sponsored by Planned Project of Chinese soft science (2010GXS5D228), Planned Project of Chinese Ministry of Environmental Protection (2010A076), Planned Project of Research Institute on Urban Development of Shandong (CSFZ0601), Planned Project of Science and Technology of Shandong Province (2009GG10010003).

### References

- [1] Su Ming, Liu Junmin, Zhang Jie. Research on public finance policy for promoting environment protection[R]. Working paper of Fiscal Science Institute of Finance Ministry, 2009.
- [2] Li Ning. How to avoid situation of “only tax does not care” by levying environmental taxes [N]. First Financial Daily, .2010-08-05.